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DATE: Tuesday, May 25, 2004

Hide?	Set Name	Query	Hit Count
		DB=EPAB; PLUR=YES; OP=ADJ	
☐	L31	R5 epitope	0
		DB=JPAB; PLUR=YES; OP=ADJ	
☐	L30	R5 epitope	0
		DB=DWPI; PLUR=YES; OP=ADJ	
☐	L29	R5 epitope	0
☐	L28	R5 and HPV-18	0
☐	L27	R5 and papillomavirus	22
☐	L26	R5 and papillomavirus type 18	0
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L25	L22 and papillomavirus type 18	1
☐	L24	L22 and HPV-18	1
☐	L23	L22 and papillomavirus	30
☐	L22	R5	27010
☐	L21	6066324.pn.	1
☐	L20	5855891.pn.	1
☐	L19	5618536.pn.	1
☐	L18	L17 and fusion	1
☐	L17	R5 and HPV-18	1
☐	L16	R5 and HPV	13
☐	L15	R5 epitope	0
☐	L14	chimeric papillomavirus.clm.	0
☐	L13	chimeric papillomavirus	13
		DB=USOC; PLUR=YES; OP=ADJ	
☐	L12	chimeric papillomavirus	0
		DB=PGPB; PLUR=YES; OP=ADJ	
☐	L11	chimeric papillomavirus	12
☐	L10	hybrid papillomavirus	0
☐	L9	hybrid papilloma virus	0
		DB=DWPI; PLUR=YES; OP=ADJ	
☐	L8	hybrid papilloma virus	2
☐	L7	hybrid papillomavirus	0

☐	L6	hybrid papilomavirus	0
☐	L5	Christensen.in. and hybrid	7
☐	L4	Christensen.in. and papillomavirus	1
☐	L3	Christensen.in. and HPV	2
☐	L2	Christensen.in.	1534
☐	L1	Christensen N D.in.	6

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1: Christensen ND, Cladel NM, Reed CA, Budgeon LR, Embers ME, Skulsky DM, McClements WL, Ludmerer SW, Jansen KU. Related Articles, Links

Hybrid papillomavirus L1 molecules assemble into virus-like particles that reconstitute conformational epitopes and induce neutralizing antibodies to distinct HPV types.
Virology. 2001 Dec 20;291(2):324-34.
PMID: 11878901 [PubMed - indexed for MEDLINE]

2: Christensen ND, Reed CA, Cladel NM, Hall K, Leiserowitz GS. Related Articles, Links

Monoclonal antibodies to HPV-6 L1 virus-like particles identify conformational and linear neutralizing epitopes on HPV-11 in addition to type-specific epitopes on HPV-6.
Virology. 1996 Oct 15;224(2):477-86.
PMID: 8874508 [PubMed - indexed for MEDLINE]

3: Christensen ND, Dillner J, Eklund C, Carter JJ, Wipf GC, Reed CA, Cladel NM, Galloway DA. Related Articles, Links

Surface conformational and linear epitopes on HPV-16 and HPV-18 L1 virus-like particles as defined by monoclonal antibodies.
Virology. 1996 Sep 1;223(1):174-84.
PMID: 8806551 [PubMed - indexed for MEDLINE]

4: Christensen ND, Kirnbauer R, Schiller JT, Ghim SJ, Schlegel R, Jenson AB, Kreider JW. Related Articles, Links

Human papillomavirus types 6 and 11 have antigenically distinct strongly immunogenic conformationally dependent neutralizing epitopes.
Virology. 1994 Nov 15;205(1):329-35.
PMID: 7526536 [PubMed - indexed for MEDLINE]

5: Combita AL, Touze A, Bousarghin L, Christensen ND, Coursaget P. Related Articles, Links

Identification of two cross-neutralizing linear epitopes within the L1 major capsid protein of human papillomaviruses.
J Virol. 2002 Jul;76(13):6480-6.
PMID: 12050360 [PubMed - indexed for MEDLINE]

6: Carter JJ, Wipf GC, Benki SF, Christensen ND, Galloway DA. Related Articles, Links

Identification of a human papillomavirus type 16-specific epitope on the C-terminal arm of the major capsid protein L1.
J Virol. 2003 Nov;77(21):11625-32.
PMID: 14557648 [PubMed - indexed for MEDLINE]

7: White WI, Wilson SD, Palmer-Hill FJ, Woods RM, Ghim SJ, Hewitt LA, Goldman DM, Burke SJ, Jenson AB, Koenig S, Suzich Related Articles, Links

JA.

Characterization of a major neutralizing epitope on human papillomavirus type 16 L1.
J Virol. 1999 Jun;73(6):4882-9.
PMID: 10233949 [PubMed - indexed for MEDLINE]

☐ **8:** Sadeyen JR, Tourne S, Shkreli M, Sizaret PY, Coursaget P. Related Articles, Links

Insertion of a foreign sequence on capsid surface loops of human papillomavirus type 16 virus-like particles reduces their capacity to induce neutralizing antibodies and delineates a conformational neutralizing epitope.
Virology. 2003 Apr 25;309(1):32-40.
PMID: 12726724 [PubMed - indexed for MEDLINE]

☐ **9:** Christensen ND, Hopfl R, DiAngelo SL, Cladel NM, Patrick SD, Welsh PA, Budgeon LR, Reed CA, Kreider JW. Related Articles, Links

Assembled baculovirus-expressed human papillomavirus type 11 L1 capsid protein virus-like particles are recognized by neutralizing monoclonal antibodies and induce high titres of neutralizing antibodies.
J Gen Virol. 1994 Sep;75 (Pt 9):2271-6.
PMID: 7521393 [PubMed - indexed for MEDLINE]

☐ **10:** McClements WL, Wang XM, Ling JC, Skulsky DM, Christensen ND, Jansen KU, Ludmerer SW. Related Articles, Links

A novel human papillomavirus type 6 neutralizing domain comprising two discrete regions of the major capsid protein L1.
Virology. 2001 Oct 25;289(2):262-8.
PMID: 11689049 [PubMed - indexed for MEDLINE]

☐ **11:** Varsani A, Williamson AL, de Villiers D, Becker I, Christensen ND, Rybicki EP. Related Articles, Links

Chimeric human papillomavirus type 16 (HPV-16) L1 particles presenting the common neutralizing epitope for the L2 minor capsid protein of HPV-6 and HPV-16.
J Virol. 2003 Aug;77(15):8386-93.
PMID: 12857908 [PubMed - indexed for MEDLINE]

☐ **12:** Wang XM, Cook JC, Lee JC, Jansen KU, Christensen ND, Ludmerer SW, McClements WL. Related Articles, Links

Human papillomavirus type 6 virus-like particles present overlapping yet distinct conformational epitopes.
J Gen Virol. 2003 Jun;84(Pt 6):1493-7.
PMID: 12771418 [PubMed - indexed for MEDLINE]

☐ **13:** Ludmerer SW, Benincasa D, Mark GE 3rd. Related Articles, Links

Two amino acid residues confer type specificity to a neutralizing, conformationally dependent epitope on human papillomavirus type 11.
J Virol. 1996 Jul;70(7):4791-4.
PMID: 8676509 [PubMed - indexed for MEDLINE]

☐ **14:** Bryan JT, Jansen KU, Lowe RS, Fife KH, McClowry T, Glass D, Brown DR. Related Articles, Links

Human papillomavirus type 11 neutralization in the athymic mouse xenograft system: correlation with virus-like particle IgG concentration.
J Med Virol. 1997 Nov;53(3):185-8.

PMID: 9365880 [PubMed - indexed for MEDLINE]

☐ **15:** Kulski JK, Sadleir JW, Kelsall SR, Cicchini MS, Shellam G, Peng SW, Qi YM, Galloway DA, Zhou J, Frazer IH. Related Articles, Links

Type specific and genotype cross reactive B epitopes of the L1 protein of HPV16 defined by a panel of monoclonal antibodies.
Virology. 1998 Apr 10;243(2):275-82.
PMID: 9568027 [PubMed - indexed for MEDLINE]

☐ **16:** Giroglou T, Sapp M, Lane C, Fligge C, Christensen ND, Streeck RE, Rose RC. Related Articles, Links

Immunological analyses of human papillomavirus capsids.
Vaccine. 2001 Feb 8;19(13-14):1783-93.
PMID: 11166904 [PubMed - indexed for MEDLINE]

☐ **17:** Buonamassa DT, Greer CE, Capo S, Yen TS, Galeotti CL, Bensi G. Related Articles, Links

Yeast coexpression of human papillomavirus types 6 and 16 capsid proteins.
Virology. 2002 Feb 15;293(2):335-44.
PMID: 11886254 [PubMed - indexed for MEDLINE]

☐ **18:** Slupetzky K, Shafti-Keramat S, Lenz P, Brandt S, Grassauer A, Sara M, Kirnbauer R. Related Articles, Links

Chimeric papillomavirus-like particles expressing a foreign epitope on capsid surface loops.
J Gen Virol. 2001 Nov;82(Pt 11):2799-804.
PMID: 11602792 [PubMed - indexed for MEDLINE]

☐ **19:** Volpers C, Sapp M, Snijders PJ, Walboomers JM, Streeck RE. Related Articles, Links

Conformational and linear epitopes on virus-like particles of human papillomavirus type 33 identified by monoclonal antibodies to the minor capsid protein L2.
J Gen Virol. 1995 Nov;76 (Pt 11):2661-7.
PMID: 7595373 [PubMed - indexed for MEDLINE]

☐ **20:** Ludmerer SW, McClements WL, Wang XM, Ling JC, Jansen KU, Christensen ND. Related Articles, Links

HPV11 mutant virus-like particles elicit immune responses that neutralize virus and delineate a novel neutralizing domain.
Virology. 2000 Jan 20;266(2):237-45.
PMID: 10639310 [PubMed - indexed for MEDLINE]

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Items 1-20 of 418 Page 1 of 21 Next

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May 12 2004 06:43:50

1: Virology. 2001 Dec 20;291(2):324-34.

Hybrid papillomavirus L1 molecules assemble into virus-like particles that reconstitute conformational epitopes and induce neutralizing antibodies to distinct HPV types.

Christensen ND, Cladel NM, Reed CA, Budgeon LR, Embers ME, Skulsky DM, McClements WL, Ludmerer SW, Jansen KU.

The Jake Gittlen Cancer Research Institute, Pathology Department, Milton S. Hershey Medical Center, 500 University Drive, Hershey, PA 17033, USA. ndc1@psu.edu

Human papillomavirus (HPV) hybrid virus-like particles (VLPs) were prepared using complementary regions of the major capsid L1 proteins of HPV-11 and -16. These hybrid L1 proteins were tested for assembly into VLPs, for presentation and mapping of conformational neutralizing epitopes, and as immunogens in rabbits and mice. Two small noncontiguous hypervariable regions of HPV-16 L1, when replaced into the HPV-11 L1 backbone, produced an assembly-positive hybrid L1 which was recognized by the type-specific, conformationally dependent HPV-16 neutralizing monoclonal antibody (N-MAb) H16.V5. Several new N-MAbs that were generated following immunization of mice with wild-type HPV-16 L1 VLPs also recognized this reconstructed VLP, demonstrating that these two hypervariable regions collectively constituted an immunodominant epitope. When a set of hybrid VLPs was tested as immunogens in rabbits, antibodies to both HPV-11 and -16 wild-type L1 VLPs were obtained. One of the hybrid VLPs containing hypervariable FG and HI loops of HPV-16 L1 replaced into an HPV-11 L1 background provoked neutralizing activity against both HPV-11 and HPV-16. In addition, conformationally dependent and type-specific MAbs to both HPV-11 and HPV-16 L1 VLP were obtained from mice immunized with hybrid L1 VLPs. These data indicated that hybrid L1 proteins can be constructed that retain VLP-assembly properties, retain type-specific conformational neutralizing epitopes, can map noncontiguous regions of L1 which constitute type-specific conformational neutralizing epitopes recognized by N-MAbs, and trigger polyclonal antibodies which can neutralize antigenically unrelated HPV types. (C)2001 Elsevier Science.

PMID: 11878901 [PubMed - indexed for MEDLINE]

First Hit

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L9: Entry 1 of 2 File: DWPI Mar 19, 2003

DERWENT-ACC-NO: 2002-122247
DERWENT-WEEK: 200322

TITLE: New chimeric human papillomavirus (HPV) L1 proteins, useful for eliciting antibody responses or cellular responses against papillomavirus, and as therapeutic, prophylactic or diagnostic reagents for papillomavirus infection

INVENTOR: MULLIKIN, B; SUZICH, J A ; WHITE, W ; WILSON, S

PRIORITY-DATA: 2000US-212839P (June 21, 2000)

Search Selected | Search ALL | Clear

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
☐	EP 1292328 A1	March 19, 2003	E	000	A61K039/12
☐	WO 200197840 A1	December 27, 2001	E	049	A61K039/12
☐	AU 200175458 A	January 2, 2002		000	A61K039/12

INT-CL (IPC): A61 K 39/00; A61 K 39/12; C12 N 7/00; C12 P 21/06

ABSTRACTED-PUB-NO: WO 200197840A
BASIC-ABSTRACT:

NOVELTY - A chimeric human papillomavirus (HPV) L1 protein, which is capable of eliciting antibody responses or cellular responses that are generally comparable to those induced by two or more individual HPV types, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a virus-like particle (VLP) comprising the chimeric HPV L1 protein;

(2) a vaccine composition comprising the chimeric HPV L1 protein;

(3) a therapeutic composition comprising the chimeric HPV L1 protein;

(4) a gene encoding the chimeric HPV L1 protein;

(5) a baculovirus vector comprising the gene;

(6) inducing a high titer neutralizing antibody response or cell-mediated immune response against at least two HPV types by administering a single type of chimeric HPV L1 protein, or a VLP comprising a single type or at least two types of chimeric HPV L1 proteins;

(7) antisera generated by the method of (6);

(8) vaccinating a subject against at least two types of HPV by administering a vaccine composition, comprising at least one correctly folded chimeric HPV L1 protein, where the chimeric HPV L1 protein comprises neutralizing epitopes for at least two HPV types;

(9) treating a papillomavirus infection:

(a) characterized by more than one HPV type by administering a therapeutic composition having HPV VLPs displaying at least one chimeric L1 proteins;

(b) caused by a first HPV type, concurrently with prophylactic treatment of at least one other type of HPV infection, by administering a therapeutic composition with HPV VLPs displaying at least one chimeric L1 protein;

(10) making a multi-HPV type vaccine or therapeutic composition; and

(11) diagnosing prior or current papillomavirus infection.

ACTIVITY - Virucide.

Groups of Swiss mice (5 mice/group) were immunized with three of the four different chimeric VLPs as well as HPV-18 and HPV-45 VLPs adsorbed to aluminum hydroxide. Pooled serum samples, collected after the secondary immunization, were screened by enzyme linked immunosorbent assay (ELISA) for reactivity with HPV-18 and HPV-45 VLPs. Both the XN and NB chimerics elicited antisera that strongly reacted with both HPV-18 and HPV-45 VLPs. In contrast, antisera against the BH chimeric in which C' terminal end (amino acids 449-506) of HPV-18 L1 were replaced with the analogous region of HPV-45 L1, reacted poorly with HPV-45 VLPs.

MECHANISM OF ACTION - Immunotherapy.

USE - The chimeric HPV L1 protein is useful for eliciting antibody responses or cellular responses against papillomavirus infections. The chimeric HPV L1 protein are also useful as therapeutic and prophylactic reagents, as well as reagents for diagnosing papillomavirus infection. It may also be used as effective prophylactic reagents against the disease states associated with prolonged infections with the HPV types. Chimeric VLPs may be useful in the diagnosing prior or current infection with the HPV types or as an aid in the determination of the level of protective (neutralizing) antibody present in a body fluid sample.

ABSTRACTED-PUB-NO: WO 200197840A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/7

d l21

L21 ANSWER 1 OF 1 MEDLINE on STN
AN 2003358802 MEDLINE
DN PubMed ID: 12890615
TI Human papillomavirus type 45 propagation, infection, and neutralization.
AU McLaughlin-Drubin Margaret E; Wilson Susan; **Mullikin Brian;** Suzich JoAnn; Meyers Craig
CS Department of Microbiology and Immunology, Pennsylvania State University College of Medicine, Hershey, PA 17033, USA.
SO Virology, (2003 Jul 20) 312 (1) 1-7.
Journal code: 0110674. ISSN: 0042-6822.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200309
ED Entered STN: 20030801
Last Updated on STN: 20030904
Entered Medline: 20030903

=> d l21 ab

L21 ANSWER 1 OF 1 MEDLINE on STN
AB The organotypic (raft) culture system has allowed the study of the entire differentiation-dependent life cycle of human papillomaviruses (HPVs), including virion morphogenesis. We introduced linearized HPV45 genomic DNA into primary keratinocytes, where it recircularized and maintained episomally at a range of 10-50 copies of HPV genomic DNA. Following epithelial stratification and differentiation in organotypic culture, virion morphogenesis occurred. HPV45 virions were purified from raft cultures and were able to infect keratinocytes in vitro. By testing a panel of HPV VLP antisera, we were able to demonstrate that the infection was neutralized not only with human HPV45 VLP-specific antiserum, but also with human HPV18 VLP-specific antiserum, demonstrating serological cross-reactivity between HPV18 and HPV45.

WEST Search History

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DATE: Tuesday, May 25, 2004

Hide?	Set Name	Query	Hit Count
	DB=USPT; PLUR=YES; OP=ADJ		
☐	L13	HPV-18 and HPV-45	11
☐	L12	6352696.pn.	1
☐	L11	6228368.pn.	1
☐	L10	6165471.pn.	1
☐	L9	Hallek.in. and papilloma	7
	DB=DWPI; PLUR=YES; OP=ADJ		
☐	L8	Hallek.in. and papilloma	2
☐	L7	Hallek.in.	16
☐	L6	L5 and papilloma	1
☐	L5	White w.in.	370
	DB=USPT; PLUR=YES; OP=ADJ		
☐	L4	White wendy.in.	3
☐	L3	L1 and papillomavirus	4
☐	L2	L1 and virus	153
☐	L1	White .in.	12181

END OF SEARCH HISTORY

d l19 4 3 2 all

L19 ANSWER 4 OF 6 MEDLINE on STN
AN 2000423543 MEDLINE
DN PubMed ID: 10915608
TI Papillomavirus virus-like particles for the delivery of multiple cytotoxic T cell epitopes.
AU Liu W J; Liu X S; Zhao K N; Leggatt G R; Frazer I H
CS Center for Immunology and Cancer Research, Princess Alexandra Hospital, Woolloogabba, Queensland, 4102, Australia.
SO Virology, (2000 Aug 1) 273 (2) 374-82.
Journal code: 0110674. ISSN: 0042-6822.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals; AIDS
EM 200009
ED Entered STN: 20000915
Last Updated on STN: 20000915
Entered Medline: 20000906
AB Chimeric papillomavirus (PV) virus-like particles (VLPs) based on the bovine papillomavirus type 1 (BPV-1) L1 protein were constructed by replacing the 23-carboxyl-terminal amino acids of the BPV1 major protein L1 with an artificial "polytope" minigene, containing known CTL epitopes of human PV16 E7 protein, HIV IIIB gp120 P18, Nef, and reverse transcriptase (RT) proteins, and an HPV16 E7 linear B epitope. The CTL epitopes were restricted by three different MHC class I alleles (H-2(b), H-2(d), HLA-A*0201). The **chimeric L1** protein assembled into VLPs when expressed in SF-9 cells by recombinant baculovirus. After immunization of mice with polytope VLPs in the absence of adjuvant, serum antibodies were detected which reacted with both polytope VLPs and wild-type BPV1L1 VLPs, in addition to the HPV16E7 linear B cell epitope. CTL precursors specific for the HPV16 E7, HIV P18, and RT CTL epitopes were also detected in the spleen of immunized mice. Polytope VLPs can thus deliver multiple B and T epitopes as immunogens to the MHC class I and class II pathways, extending the utility of VLPs as self-adjuvanting immunogen delivery systems.

CT Check Tags: Female; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Amino Acid Sequence
Animals
Cells, Cultured
Chimera
Enzyme-Linked Immunosorbent Assay
*Epitopes, T-Lymphocyte: AD, administration & dosage
Epitopes, T-Lymphocyte: IM, immunology
Genetic Vectors
Mice
Mice, Inbred BALB C
Mice, Inbred C57BL
Mice, Transgenic
Molecular Sequence Data
*Papillomavirus, Bovine: GE, genetics
Spodoptera
*T-Lymphocytes, Cytotoxic: IM, immunology
Virion: GE, genetics
CN 0 (Epitopes, T-Lymphocyte); 0 (Genetic Vectors)

L19 ANSWER 3 OF 6 MEDLINE on STN
AN 2001611369 MEDLINE
DN PubMed ID: 11602792
TI Chimeric papillomavirus-like particles expressing a foreign epitope on

capsid surface loops.
AU Slupetzky K; Shafti-Keramat S; Lenz P; Brandt S; Grassauer A; Sara M; Kirnbauer R
CS Laboratory of Viral Oncology, Division of Immunology, Allergy and Infectious Diseases (DIAID), University of Vienna Medical School, Wahringer Gurtel 18-20, A-1090 Vienna, Austria.
SO Journal of general virology, (2001 Nov) 82 (Pt 11) 2799-804. Journal code: 0077340. ISSN: 0022-1317.
CY England: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200112
ED Entered STN: 20011105
Last Updated on STN: 20020122
Entered Medline: 20011204
AB Neutralization capsid epitopes are important determinants for antibody-mediated immune protection against papillomavirus (PV) infection and induced disease. **Chimeric L1** major capsid proteins of the human PV type 16 (HPV-16) and the bovine PV type 1 (BPV-1) with a foreign peptide incorporated into several capsid surface loops self-assembled into pentamers or virus-like particles (VLP). Binding patterns of neutralizing monoclonal antibodies (MAb) and immunization of mice confirmed (i) that regions around aa 282-286 and 351-355 contribute to neutralization epitopes and identified the latter region as an immunodominant site and (ii) that placing a foreign peptide in the context of an assembled structure markedly enhanced its immunogenicity. Pentamers disassembled from wild-type HPV-16 and BPV-1 VLPs displayed some of the neutralization epitopes that were detected on fully assembled VLPs, but were deficient for binding a subset of neutralizing MAb that inhibit cell attachment.
CT Check Tags: Human; Support, Non-U.S. Gov't
Animals
Antibodies, Monoclonal: ME, metabolism
Antibodies, Viral: BL, blood
Capsid: GE, genetics
*Capsid: IM, immunology
Capsid: ME, metabolism
Cattle
Chimeric Proteins: GE, genetics
*Chimeric Proteins: IM, immunology
Chimeric Proteins: ME, metabolism
Immunization
Immunodominant Epitopes
Mice
Mice, Inbred BALB C
Neutralization Tests
Papillomavirus Infections: PC, prevention & control
Papillomavirus, Bovine: GE, genetics
*Papillomavirus, Bovine: IM, immunology
Papillomavirus, Bovine: ME, metabolism
Papillomavirus, Human: GE, genetics
*Papillomavirus, Human: IM, immunology
Papillomavirus, Human: ME, metabolism
Tumor Virus Infections: PC, prevention & control
Viral Vaccines: IM, immunology
Virion: GE, genetics
*Virion: IM, immunology
CN 0 (Antibodies, Monoclonal); 0 (Antibodies, Viral); 0 (Chimeric Proteins); 0 (Immunodominant Epitopes); 0 (Viral Vaccines)

L19 ANSWER 2 OF 6 MEDLINE on STN

AN 2002006603 MEDLINE
DN PubMed ID: 11158207
TI Papillomavirus-like particle vaccines.
AU Schiller J T; Lowy D R
CS Laboratory of Cellular Oncology, National Cancer Institute, Bethesda, MD 20892, USA.. schillej@dc37a.nci.nih.gov
SO Journal of the National Cancer Institute. Monographs, (2001) (28) 50-4.
Ref: 31
Journal code: 9011255. ISSN: 1052-6773.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LA English
FS Priority Journals
EM 200307
ED Entered STN: 20020121
Last Updated on STN: 20021211
Entered Medline: 20030701
AB Papillomavirus-like particle (VLP)-based subunit vaccines have undergone rapid development over the past 8 years. Three types are being investigated. The most basic type is composed of only the L1 major capsid protein and is designed to prevent genital human papillomavirus (HPV) infection by inducing virus-neutralizing antibodies. On the basis of positive results in animal models, clinical trials of this type of vaccine for HPV16, and other types, are currently under way. Preliminary results have been encouraging in that systemic immunization with the L1 VLPs induced high serum titers of neutralizing antibodies without substantial adverse effects. The second type of vaccine incorporates other papillomavirus polypeptides into the VLPs as L1 or L2 fusion proteins. These chimeric VLPs are designed to increase the therapeutic potential of an HPV vaccine by inducing cell-mediated responses to nonstructural viral proteins, such as E7. Studies in mice indicate that these vaccines generate potent antitumor cytotoxic lymphocyte (CTL) responses while retaining the ability to induce high-titer neutralizing antibodies. It is likely that prophylactic and therapeutic clinical trials of chimeric VLPs will be initiated in the near future. The third type of VLP-based vaccine is designed to induce autoantibodies against central self-antigens by incorporating self-peptides into the outer surface of VLPs, a process that could have therapeutic potential in various disease settings unrelated to HPV infection. In a recent proof of concept study, a peptide from an external loop of mouse CCR5 protein was inserted into a neutralizing epitope of L1. In mice, the particles generated by this **chimeric L1** were able to induce high titers of CCR5 antibodies that specifically recognized the surface of CCR5-transfected cells and blocked in vitro infection of an M-tropic human immunodeficiency virus strain.
CT Check Tags: Female; Human; Male; Support, U.S. Gov't, P.H.S.
Animals
Antibodies, Viral: BI, biosynthesis
Autoantibodies: BI, biosynthesis
Chimeric Proteins: IM, immunology
Clinical Trials
Cytotoxicity, Immunologic

d his

(FILE 'HOME' ENTERED AT 13:43:08 ON 25 MAY 2004)

FILE 'MEDLINE' ENTERED AT 13:43:20 ON 25 MAY 2004

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L1            0 S HYBRID AND PAILLOMAVIRUS
L2          407 S HYBRID AND PAPILLOMAVIRUS
L3           25 S HPV-18 AND HPV-45
L4            0 S L2 AND L3
L5            0 S CHIMERIC AND L3
L6            0 S R5 AND L3
L7            0 S R5 AND L2
L8            0 S R5 AND HPV-18
L9            3 S CHIMERIC AND HPV-18
L10         167 S HYBRID AND "L1"
L11          22 S HPV AND L10
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FILE 'BIOSIS' ENTERED AT 13:51:43 ON 25 MAY 2004

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L12         155 S L10
L13          19 S L11
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FILE 'CAPLUS' ENTERED AT 13:52:43 ON 25 MAY 2004

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L14          20 S L11
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FILE 'MEDLINE' ENTERED AT 13:53:27 ON 25 MAY 2004

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L15           0 S CHIMERIC AND HPV-45
L16           0 S CHIMER? AND HPV-45
L17           0 S HYBRID AND HPV-45
L18           1 S FUSION AND HPV-45
L19           6 S CHIMERIC "L1"
                E MULLIKIN B/AU
L20           2 S E3
L21           1 S E5
```

WEST Search History

Hide Items | Restore | Clear | Cancel

DATE: Tuesday, May 25, 2004

Hide?	Set Name	Query	Hit Count
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L11	L4 and hpv-45	0
☐	L10	L4 and hpv-18	1
☐	L9	R5 and antibody and papillomavirus.clm.	1
☐	L8	R5 and antibody and papillomavirus.clm	0
☐	L7	R5 and antibody.clm.	108
☐	L6	R5 and antibody	669
☐	L5	R5 antibody	0
☐	L4	5618536.pn.	1
☐	L3	L2 and hpv-18	1
☐	L2	5855891.pn.	1
☐	L1	5855891.pn. and hpv-45	0

END OF SEARCH HISTORY